6JN8
TRIODE-PENTODE

DESCRIPTION AND RATING

The 6JN8 is a miniature tube containing a sharp-cutoff pentode and a medium-mu triode.

GENERAL

ELECTRICAL

Cathode-Coated Unipotential

Heater Characteristics and Ratings	Series Heater Operation	Parallel Heater Operation	
Heater Voltage, AC or DC	6.3	6.3 ± 0.6*	Volts
Heater Current	0.45 ± 0.03†	0.45‡	Amperes
Heater Warm-up Time§	11	—	Seconds

Direct Interelectrode Capacitances¶

Pentode Section		
Grid-Number 1 to Plate, maximum: (g1 to p)	0.01	pf
Input: Pg1 to (h+Pk+Pg2+Pg3+i.s.)	5.5	pf
Output: Pp to (h+Pk+Pg2+Pg3+i.s.)	3.4	pf
Triode Section		
Grid to Plate: (g to p)	1.7	pf
Input: g to (h+Tk+Pk+Pg3+i.s.)	3.2	pf
Output: p to (h+Tk+Pk+Pg3+i.s.)	2.2	pf

MECHANICAL

Mounting Position—Any

Envelope—T-6½, Glass

Base—E9-1, Small Button 9-Pin

Outline Drawing—EIA 6-2

Maximum Diameter	7/8	Inches
Maximum Over-all Length	2 3/16	Inches
Maximum Seated Height	1 15/16	Inches

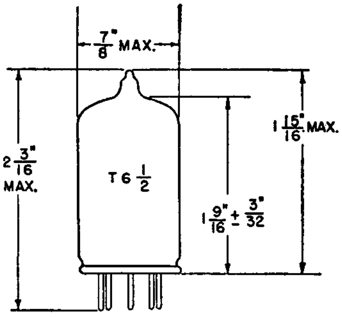
MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

	Pentode Section	Triode Section	
Plate Voltage	300	300	Volts
Screen Supply Voltage	300	—	Volts
Screen Voltage—See Screen Rating Chart			
Positive DC Grid-Number 1 Voltage	0	0	Volts
Plate Dissipation	2.5	2.5	Watts
Screen Dissipation	0.55	—	Watts

	Pentode Section	Triode Section	
Heater-Cathode Voltage			
Heater Positive with Respect to Cathode			
DC Component	100	100	Volts
Total DC and Peak	200	200	Volts
Heater Negative with Respect to Cathode			
Total DC and Peak	200	200	Volts
Grid-Number 1 Circuit Resistance			
With Fixed Bias	2.2	2.2	Megohms
With Cathode Bias	2.2	2.2	Megohms

PHYSICAL DIMENSIONS

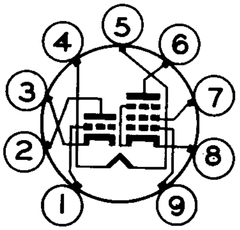


EIA 6-2

TERMINAL CONNECTIONS

Pin 1—Triode Grid
Pin 2—Triode Plate
Pin 3—Triode Cathode
Pin 4—Heater
Pin 5—Heater
Pin 6—Pentode Plate
Pin 7—Pentode Grid Number 2 (Screen)
Pin 8—Pentode Cathode, Grid Number 3 and Internal Shield
Pin 9—Pentode Grid Number 1

BASING DIAGRAM



EIA 9FA

MAXIMUM RATINGS (Cont'd)

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

	Pentode Section	Triode Section	
Plate Voltage	125	125	Volts
Screen Voltage	125	———	Volts
Grid-Number 1 Voltage	−1.0	−1.0	Volts
Amplification Factor	———	46	
Plate Resistance, approximate	200000	5400	Ohms
Transconductance	7500	8500	Micromhos
Plate Current	12	13.5	Milliamperes
Screen Current	4.0	———	Milliamperes
Grid-Number 1 Voltage, approximate Ib = 10 Microamperes	−8	−8	Volts

NOTES

* For parallel heater operation, the equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

† For series heater operation, the equipment designer should design the equipment so that heater current is centered at the specified bogey value, with heater supply variations restricted to maintain heater current within the specified tolerance.

‡ Heater current of a bogey tube at Ef = 6.3 volts.

§ The time required for the voltage across the heater to reach 80 percent of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the rated heater voltage divided by the rated heater current.

¶ With external shield (EIA 315) connected to cathode of section under test.

FOR CURVES PLEASE REFER TO 19JN8

RECEIVING TUBE DEPARTMENT

GENERAL ELECTRIC

Owensboro, Kentucky